Integrating adaptation in hazard mitigation planning efforts

Resilient Neighbors Network Steering Committee

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U.S. EPA Webinar: Attracting Funding for Adaptation
May 1, 2013

Agenda

- What is NHMA?
- What is hazard mitigation?
- Challenges to successful hazard mitigation
- Examples from the state and local level
- Funding/resources that can be leveraged

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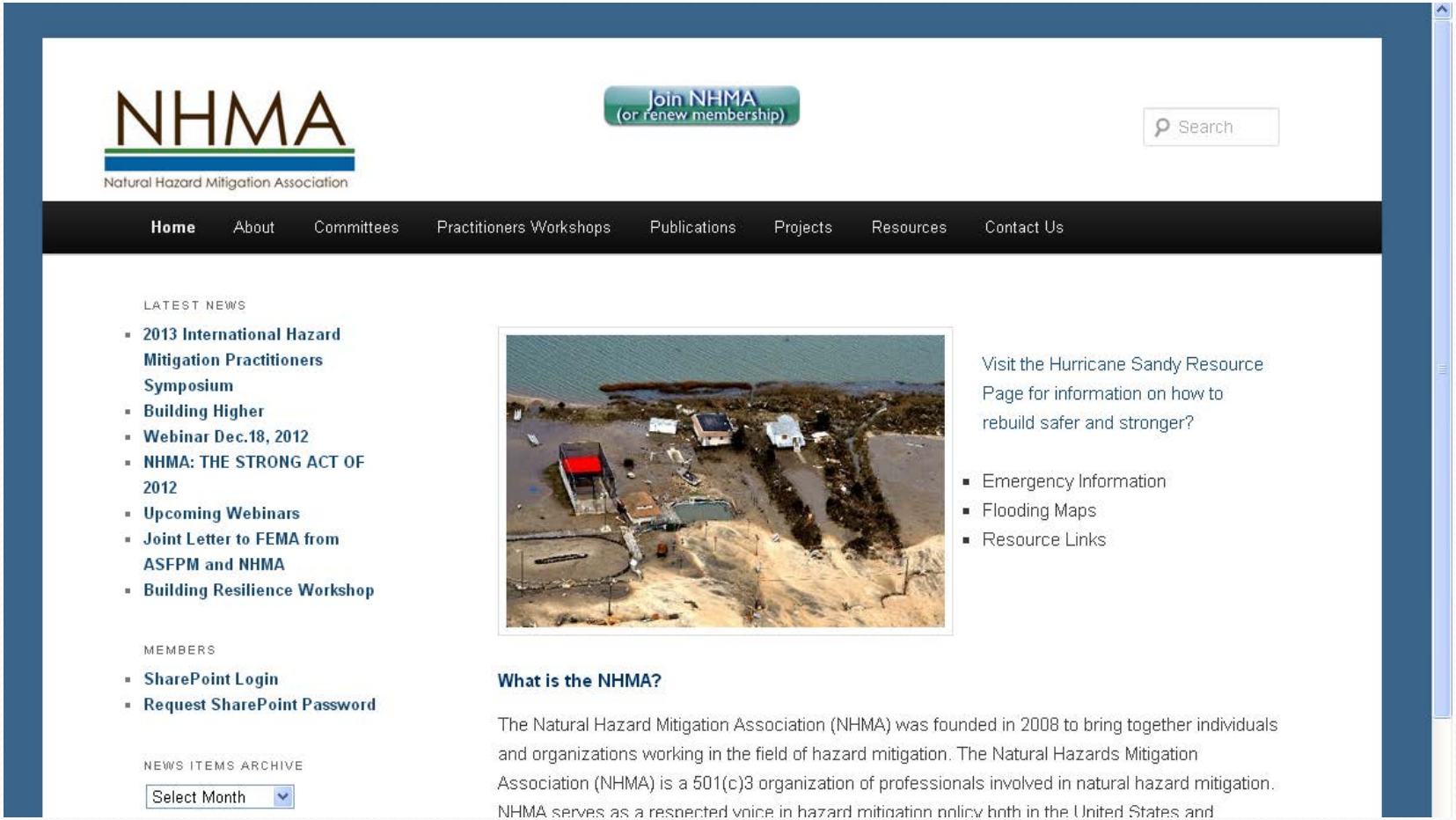
NHMA was founded in 2008 to bring together the various individuals and organizations working in the field of hazard mitigation.



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We believe through sharing approaches and tools, we can work together to build a safer, sustainable society.

Founders of Resilient Neighbors Network. Source: NHMA.

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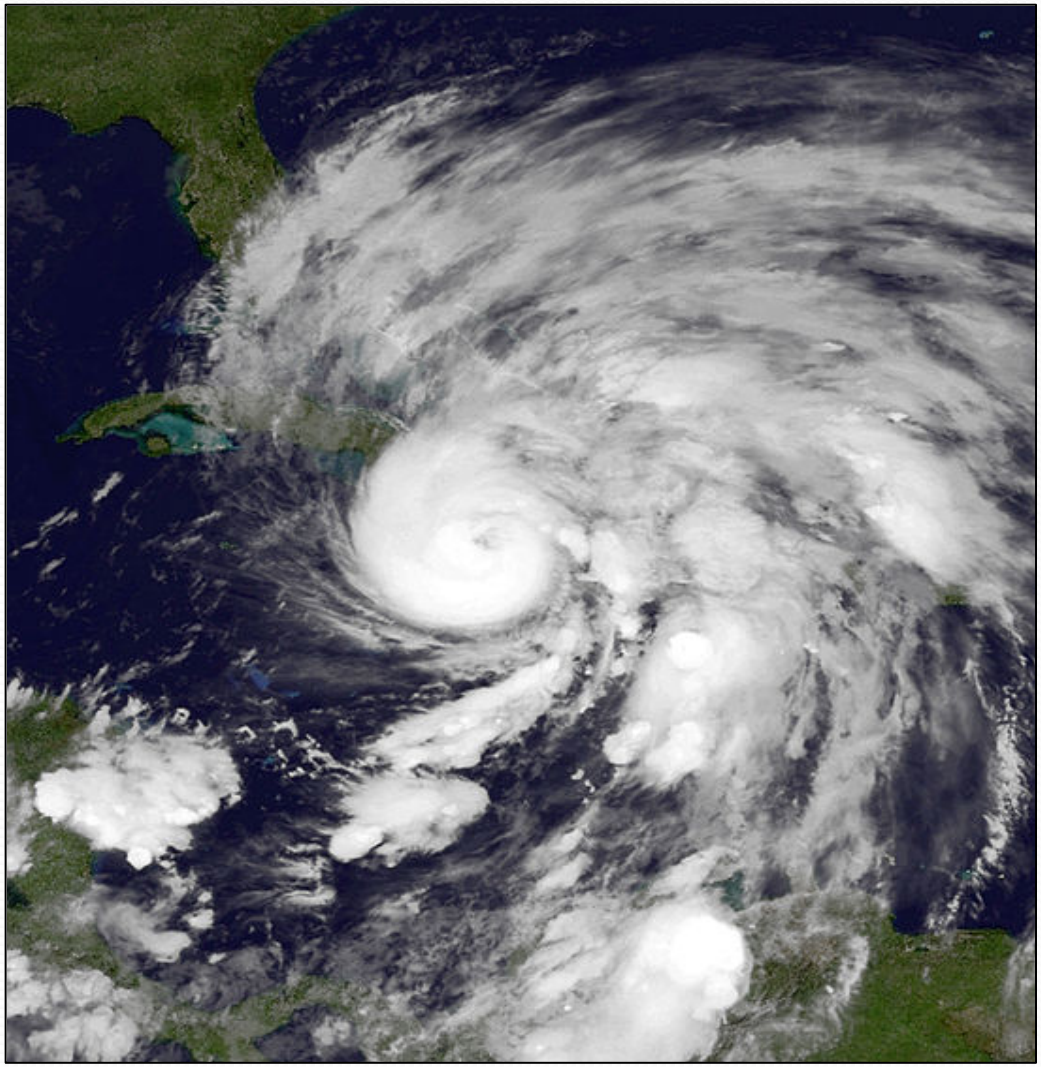
We face risks everyday.
Alone we cannot protect ourselves.

We already have trouble dealing with current hazards.

Projected climate change impacts will further tap our skills and tax our available resources.



Superstorm Sandy. Source: NOAA.

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Two groups with a lot in common are hazard mitigation and adaptation professionals.

Risk = Hazard x Exposure x Vulnerability

Hazard Mitigation reduces exposure and vulnerability, and is informed by past events.

Adaptation reduces exposure and vulnerability, and is informed by future projections.

NHMA works to foster collaboration between hazard mitigation and adaptation communities of practice.

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What is Hazard Mitigation?

Hazard: A natural, manmade, or technological problem

Mitigation: To reduce, relieve, or alleviate

Hazard Mitigation is any cost-effective action taken to eliminate or reduce the long-term risk to life and property from natural and technological hazards.
~ Federal Emergency Management Agency (FEMA)

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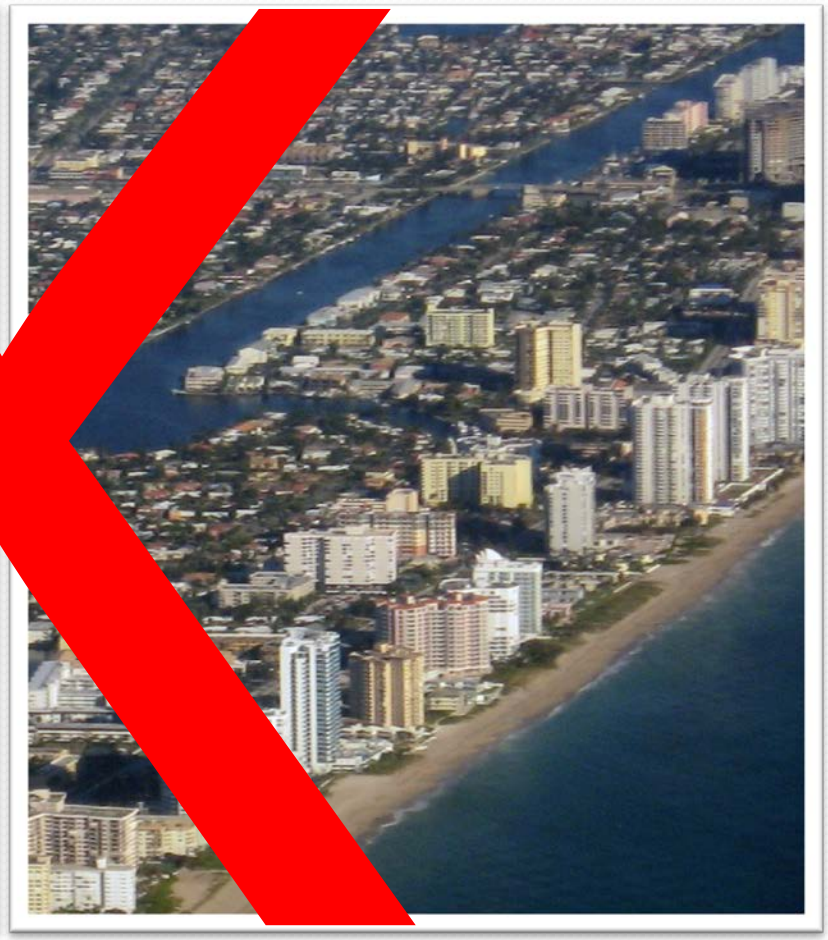
Successful hazard mitigation breaks the cycle of destruction, rebuilding, and destruction again.

Miami Beach 1926

Source: Wendler Collection

Miami Beach 2006



Source: Joel Gratz © 2006

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Hazard mitigation addresses short and long term.

Comprehensive emergency planning, preparedness, and recovery.

Maintenance, public safety measures

Retrofits, enforcement of building codes

Land use planning, coastal zone management

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Hazard mitigation benefits stakeholders in multiple ways.

- Reduces the loss of life, property, essential services, critical facilities and economic hardship.
- Reduces short-term and long-term recovery and reconstruction costs.
- Increases cooperation and communication within the community through the planning process.
- Increases potential for state and federal funding for recovery and reconstruction projects.

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Who can practice hazard mitigation? Everyone!

<u>You</u> can be part of the solution!

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Hazard mitigation plans using only past events; as safe as driving 80mph using rear view mirrors only!

Adaptation will require us to look forward, too.

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Unfortunately there are institutional, policy, and communication barriers.

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Challenge #1: Externalities

Externality:
When one group pays maintenance or replacement of something yet a different person or group uses that same something.

Disaster assistance is another classic example of an externality.

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Challenge #2: Fear of a "taking"

Taking: Regulations that effectively result in the government exercising eminent domain without actually taking your property.

- Hazard mitigation has a strong legal basis
- Safe development, low impact development, and water resources management are:
  - Legal
  - Equitable
  - Practical
  - Defensible in Court

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Challenge #3: Some public officials believe they are immune to lawsuits for the consequences of actions they take which harm others.

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Challenge #4: Climate change will worsen hazards, yet many have a fervent belief that climate change is hooey or a plot.

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Many state and regional governments are beginning to incorporate hazard mitigation and climate adaptation plans

Many of the following examples are adapted from a National Adaptation Forum presentation given by Ryan Towell, project manager at Dewberry.

These examples highlight a subset of groups beginning to incorporate plans.

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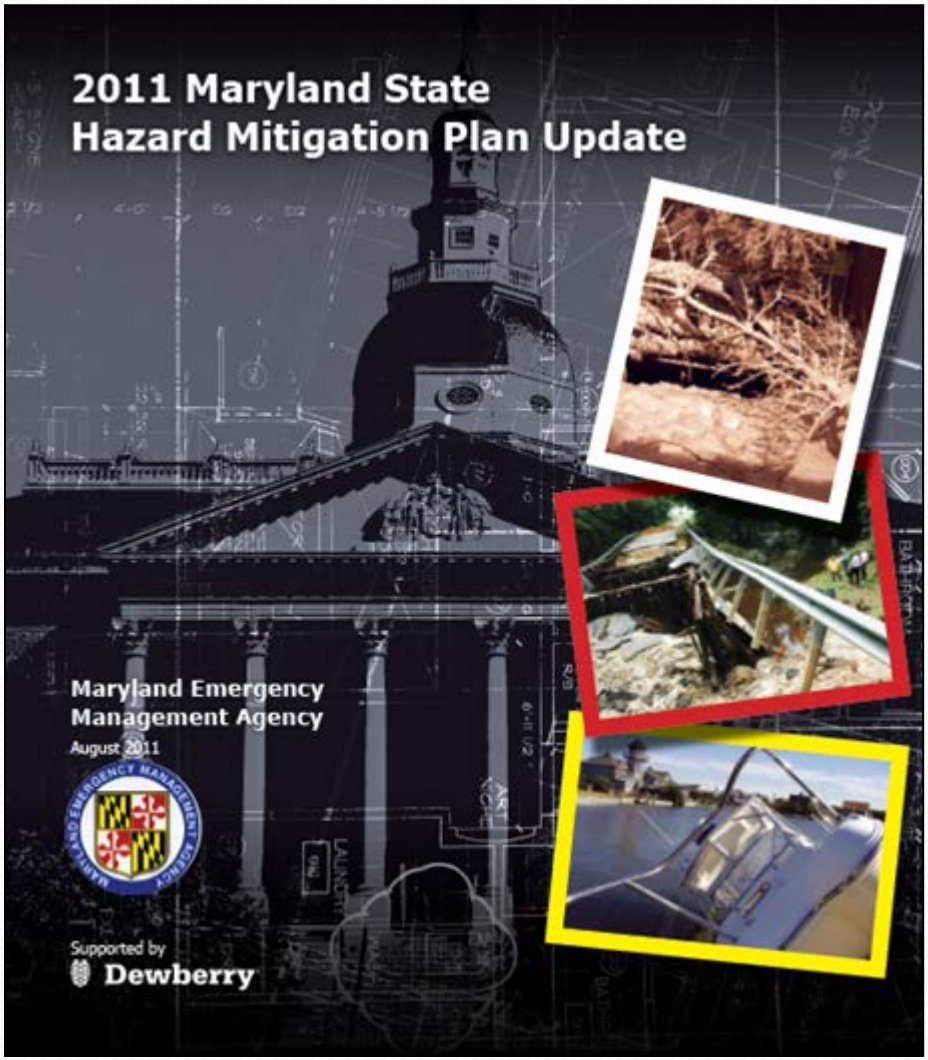
Regionally, Maryland's 2011 Hazard Mitigation Plan includes adaptation.



Climate change is a potential *amplifier* of existing natural hazards .

Plan includes:

- Critical facility risk assessment
- Potential future impact on hazard frequency, intensity, and distribution

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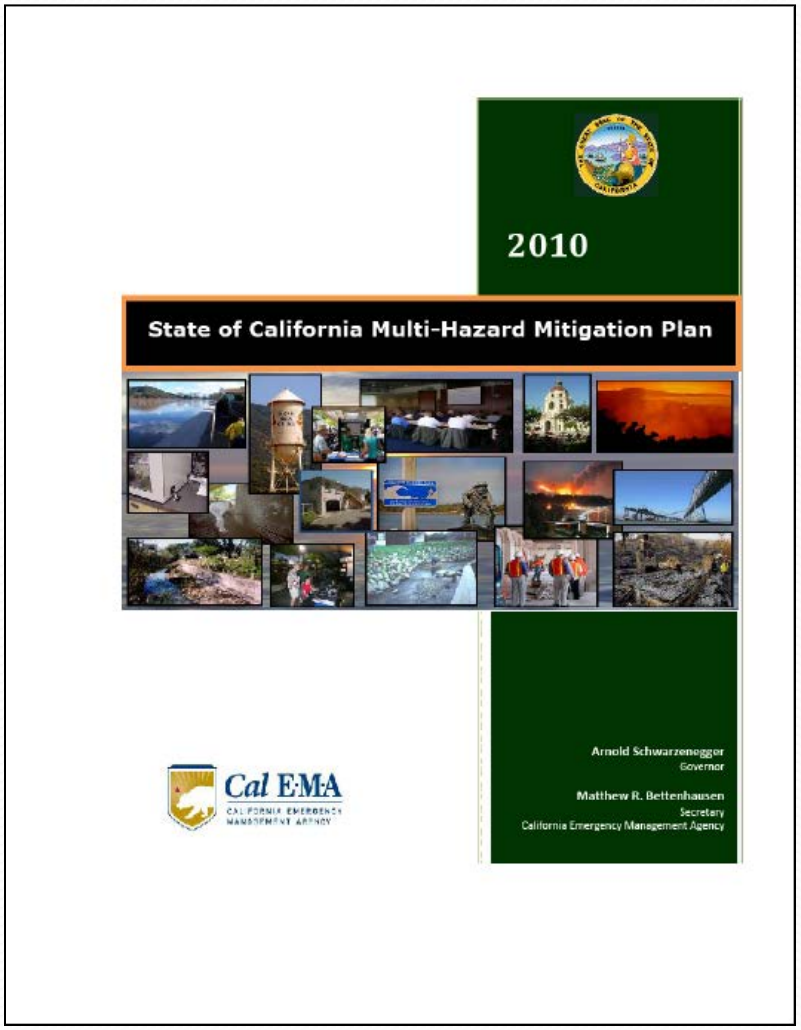
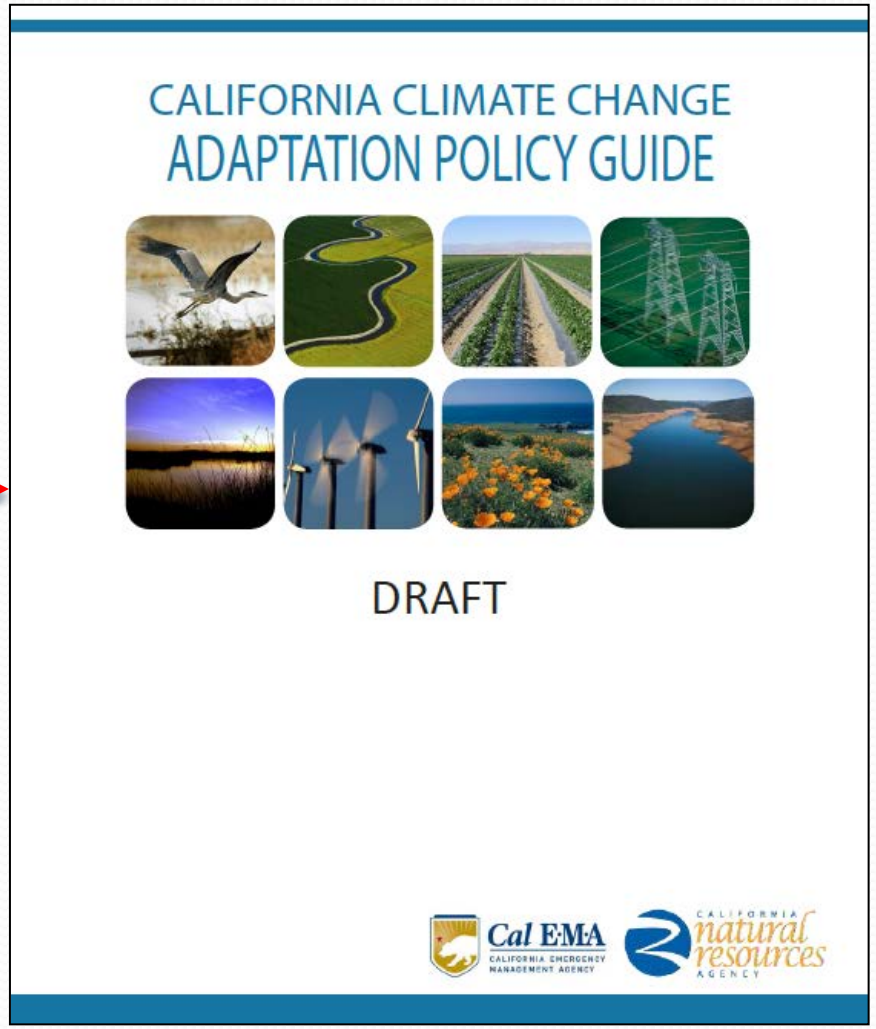
As of April 2012, California has a draft framework for local and regional adaptation planning.





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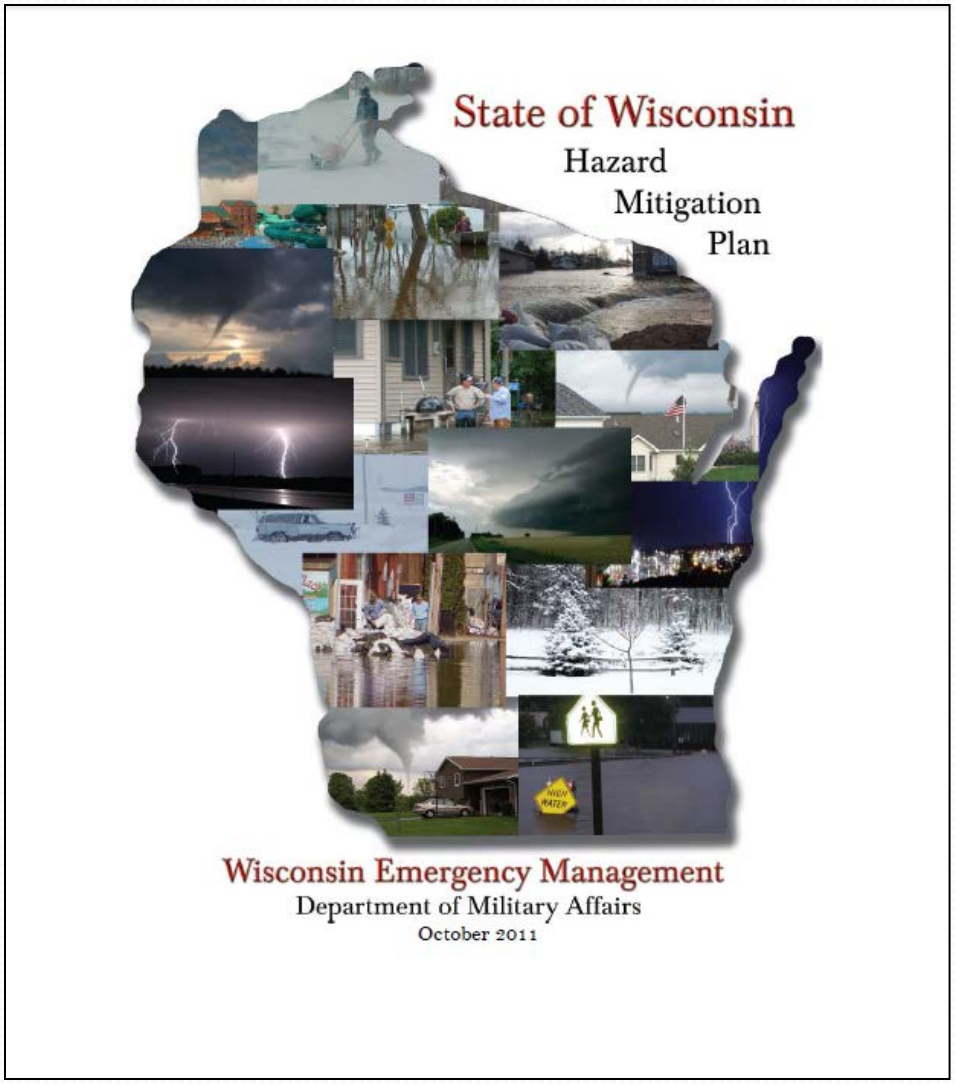
Wisconsin begin to discuss issues regarding climate change.



FEMA Region V Crosswalk suggestion:

The next plan update should include a more detailed risk assessment for climate change and a more detailed treatment of mitigation strategies.

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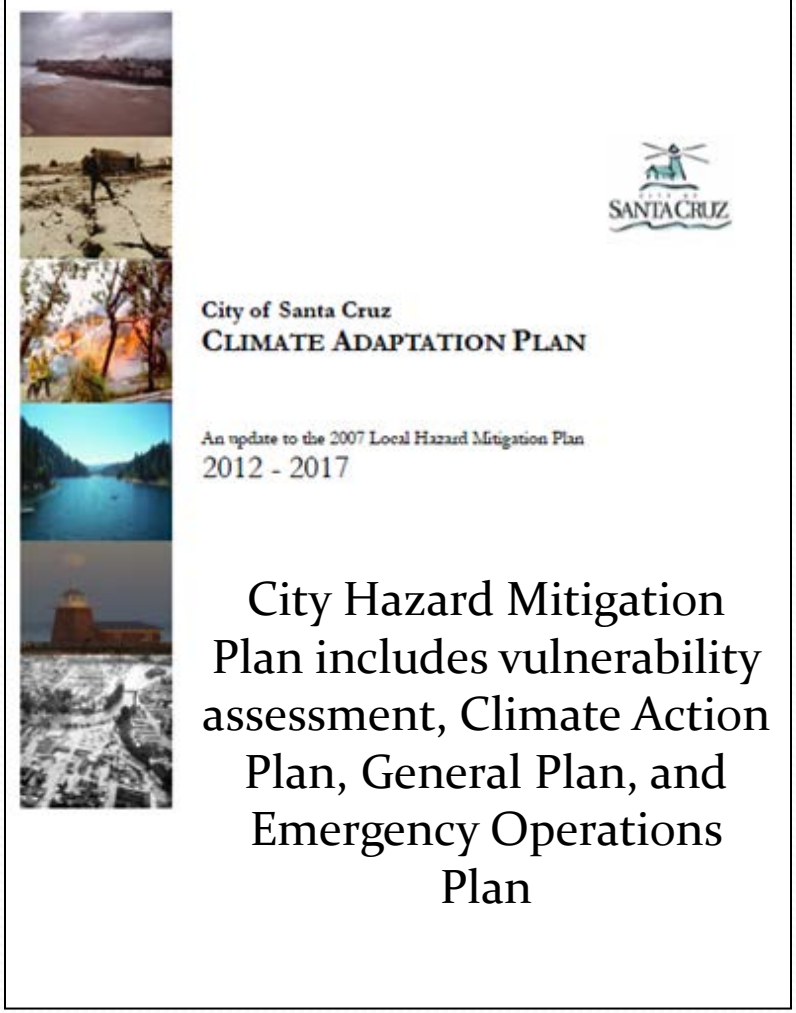
Locally, Santa Cruz integrated research and multiple existing plans into one hazard mitigation plan.

University of California at Santa Cruz research



City Hazard Mitigation Plan includes vulnerability assessment, Climate Action Plan, General Plan, and Emergency Operations Plan

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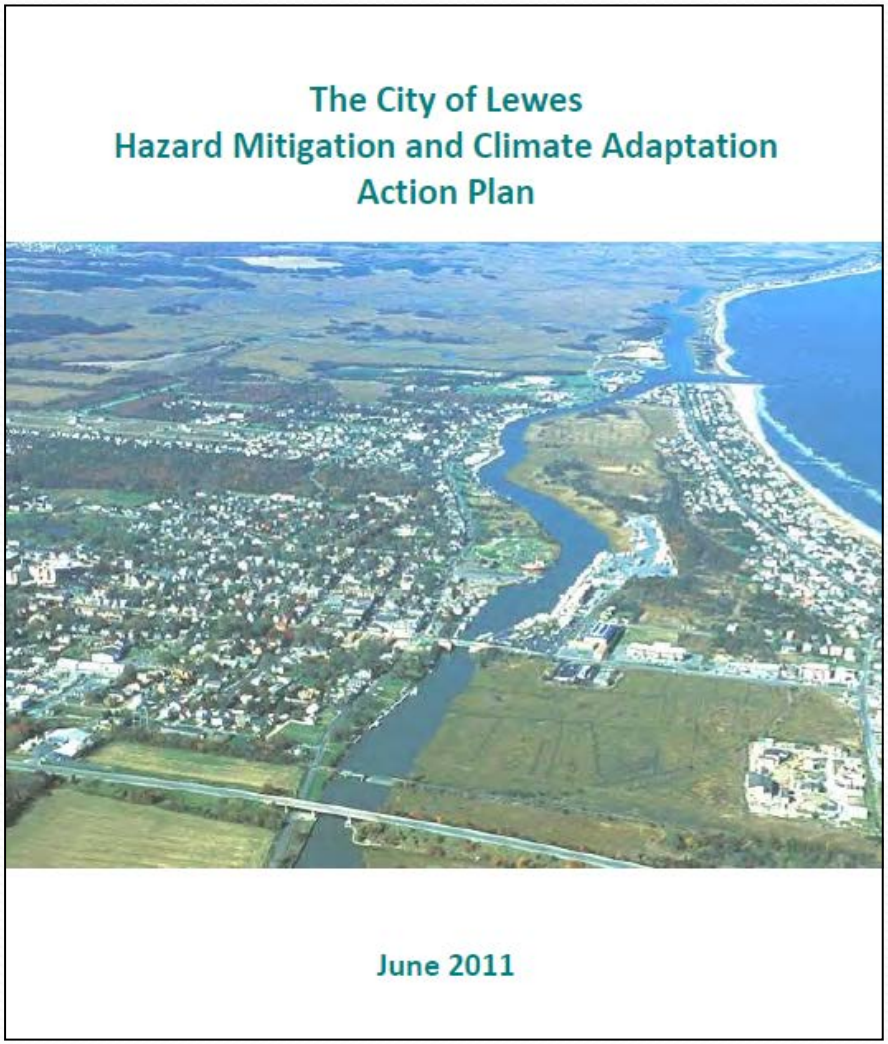
Lewes, DE has integrated climate change into existing hazard mitigation planning.



Biggest project challenge:

Nomenclature!

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So, where do we get the funding?

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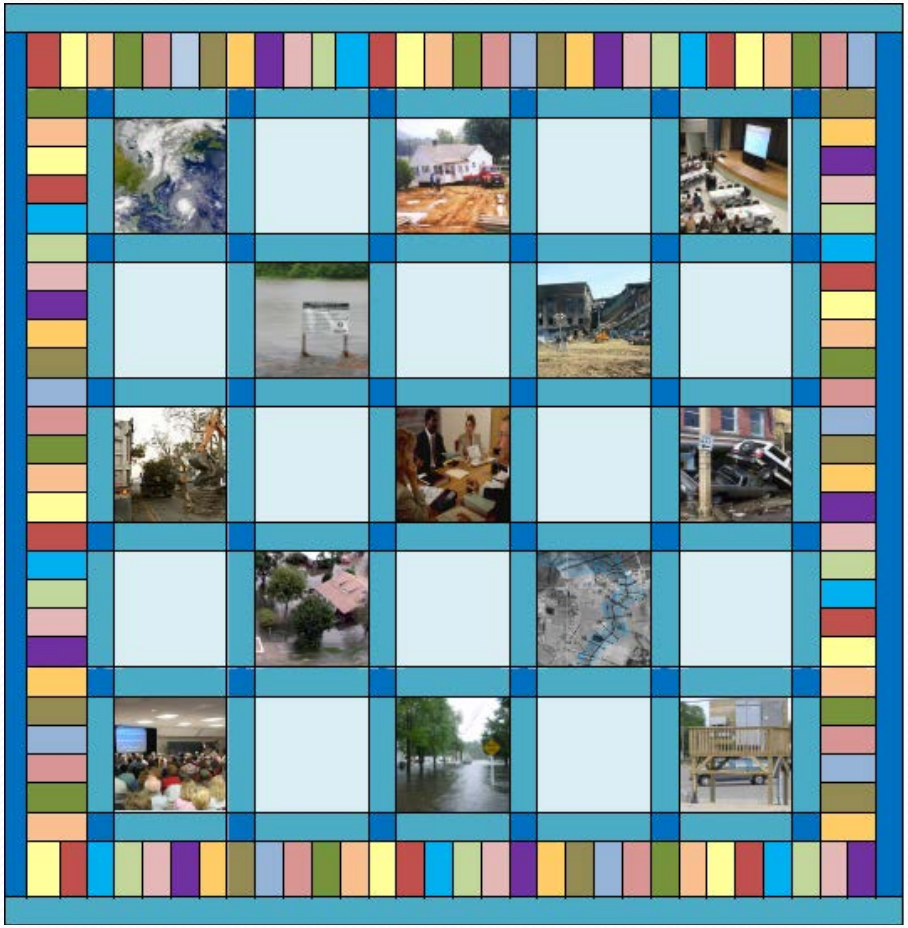
The Patchwork Quilt

http://nhma.info/publications/



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Obtaining Technical Assistance

Planning for Recovery

- Hazard Mitigation Plans – state, local, regional or university
- FEMA-State Disaster Mitigation Strategies
- Long-Term Community Recovery Plans – ESF 14
- Statewide initiatives such as Road Back Home or Mississippi Recovery & Renewal

Participants & Resources

- Federal, state and local governments
- Regional authorities, community groups & other local agencies
- Consultants
- Businesses
- Universities
- National Non-governmental Organizations

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Obtaining Funding

Sources

- FEMA Grant Programs
- USDA Programs
- DOC / EDA Programs
- DOE Programs
- HUD Programs
- Statewide initiatives
- Foundations

Promoting Action by educating:

- Regional authorities, community groups & other local agencies
- Businesses
- Universities
- Individuals
- Entrepreneurs

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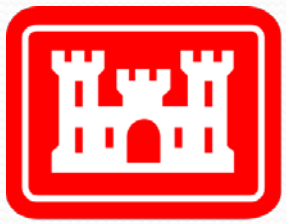
Many groups are working on hazard mitigation and climate adaptation.

American Planning Association

FEMA



US Army Corps of Engineers®

AECOM

Dewberry

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NHMA's Resilient Neighbors Network helps communities become disaster resilient.

Supported by:

FEMA

Blue-Ribbon Advisory Team.

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Founders of Resilient Neighbors Network. Source: NHMA.

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Appendix: Resilient Neighbor's Network

Augusta, Georgia

- Inland city
- Floods, tornadoes, urban sprawl
- Planning, preparedness & prevention
- Citizen and stakeholder engagement
- Updating 5-year hazard mitigation plan
- Supporting safer, stronger, & more resilient buildings
- Conducting acquisition, relocation & retrofitting within the floodplain
- Protecting natural resources

"Resilience demands that the whole community works together."

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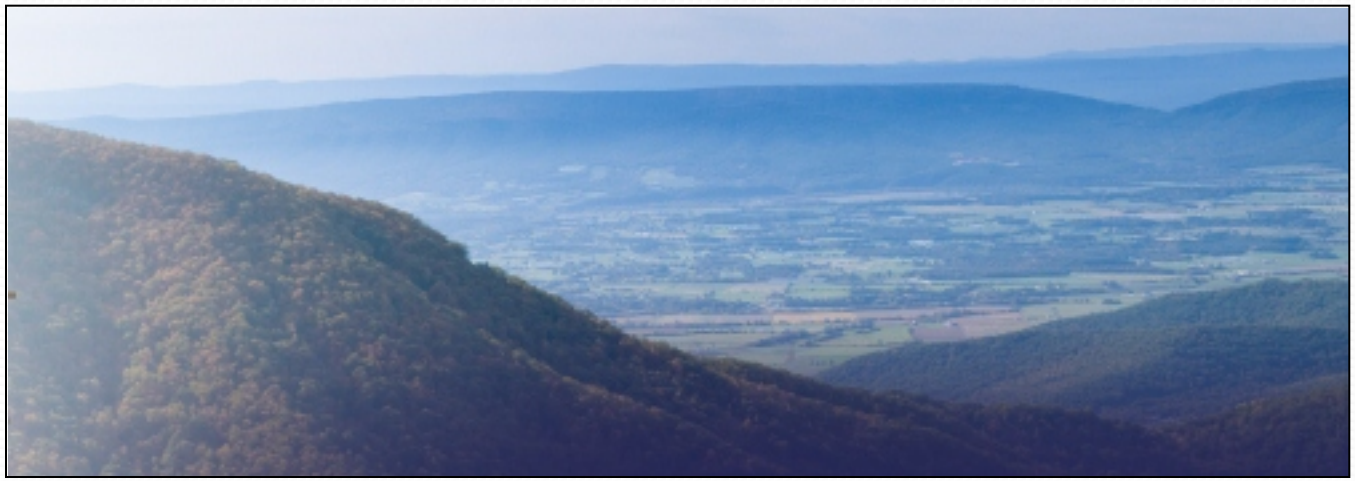
Central Shenandoah Valley, Virginia



"We all help each other, because everyone in this region has to be in it together to remain resilient."

- Includes 5 counties, 5 cities, 11 towns.
- Mountains and rivers run through the community
- Main threats are floods, tropical systems, winter storms, & tornadoes.
- Emphasis on regional and local plans for all hazards, including wildfire.
- Flood mitigation includes acquisition.
- Citizen action and partnerships include CERT and special programs for vulnerable people.
- Focus on collaborative planning and building relationships.

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Charlotte-Mecklenberg, North Carolina

"Continuing to use FEMA's existing conditions flood insurance maps to regulate new construction would only continue the cycle of flooding and rebuild for generations to come… Gaining support from local elected officials and community partners like Realtors and developers was essential to change course and create a more sustainable future."

- Major city with consolidated city-county government.
- Combines protection of lives & property with restoration of natural functions of floodplains.
- Uses higher regulatory standards based on future floodplain maps.
- Voluntary purchase of 250 high-risk floodplain buildings. Uses "quick-buy" system.
- Prototype flood warning system.
- Aggressive, invaluable partnership network includes Realtors and developers.
- Community Risk Assessment and Risk Reduction Plan uses advanced flood models and customized Risk MAP data sets, along with local data, to evaluate risk and make mitigation decisions

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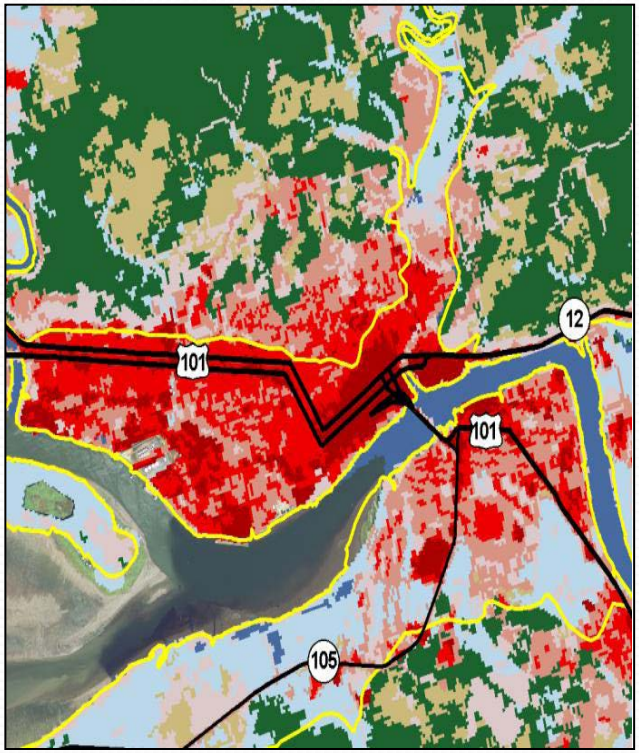
Grays Harbor County, Washington

- On the Pacific rim, south of Seattle.
- 9 cities, 2 tribes, islands, mountains & rivers.
- Flood, earthquake, tsunami, severe storms, volcano.
- Working to draw together fragmented communities.
- Focused on preparedness and planning.
- A tsunami can strike with 20-min. warning and flood far inland, stranding people who have no time to reach high ground.
- Creating a prototype "vertical evacuation" tsunami building to hold 700 students and faculty, plus 500 community members.



"Preparing for disaster is a continual process… We're making progress."

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Hillsborough County, Florida

- Includes major city, Tampa, on west coast of Florida.
- Hazards include hurricanes, floods, severe storms.
- Encourages hazard mitigation, including elevation of homes in safe sites, planning, and public education.
- Encourages homeowner action.
- Hurricane storm surge could extend 3 miles inland, 13-17 feet deep.
- Landmark plan focuses on how to recover.
- Identifies priority redevelopment areas where rebuilding will be encouraged and incentivized.

"Our plan identifies how our community will redevelop and recover. It emphasizes seizing opportunities for building back better and improving our community."

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Jefferson County, WV

"Our strength lies in our relationships (and) involving the whole community."

- Appalachian county with rich heritage that dates back to founding of our nation.
- Just outside Washington, DC.
- Hazards include flooding, wildfires, winter storms, droughts, and terrorism. Recent "derecho" windstorm.
- Exemplary partnership process that involves hundreds of businesses, agencies, vulnerable populations, and citizens in continual planning, drills, and implementation.
- Disaster-Ready Kids, StormReady, hazard mitigation planning, and COOP programs.

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Pasadena, TX

"All communications are bilingual. This is so important, so that everyone understand what is happening."

- Low-lying town near Gulf, south of Houston.
- Hurricanes, tropical storms, inland flooding, storm surge.
- Recovering from heavy 2008 damage in Hurricane Ike.
- Created prototype Program for Public Information to engage citizenry.
- Outreach includes bilingual and vulnerable populations.
- Partnership model and targeted outreach.
- Programs include hazard mitigation, environmental protection, infrastructure and land use management.

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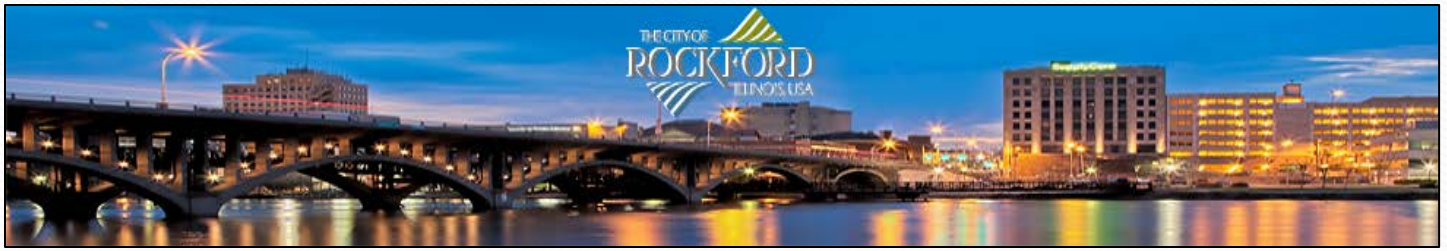
Rockford, Illinois



- Small city in Northern Illinois.
- With 2 counties, developing a major regional plan for sustainable development.
- Very broad work program includes hazard mitigation and environmental protection.
- Walkable streetscapes and parks, alternate energy, greenhouse gas issues, energy conservation, and disaster resilience.
- Acquiring floodplain properties to create parks.

"Our growth strategy enhances neighborhood livability, balances new development with infill, promotes agriculture, reduces greenhouse gas emissions, introduces walkable landscapes, conserves natural resources, and rejuvenates historic economic centers."

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Tulsa, Oklahoma

"We do everything through partnerships -- linking together government, businesses,Nonprofits, and grassroots citizens."

- Inland community of 400,000.
- Long history of flooding problems, with severe storms, tornadoes, and chemical hazards.
- Made dramatic strides in reducing frequency of floods since 1984 & 1986 disasters.
- Comprehensive management program includes aggressive regulation, floodplain clearance, watershed management, all-hazards planning & environmental protection.
- Cleared 1,000+ floodplain buildings.
- Emphasizes collaboration and partnerships, spurred by Project Impact (1998-2001) and the nonprofit Tulsa Partners, Inc.

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Vermont

"We're building partnerships and integrating river science and river protection into … a unified approach to floodplain management, hazard mitigation, water quality protection, and community development."

- The Green Mountain state.
- Many mountain streams with high velocities.
- Frequent flash floods, serious streambank erosion.
- Three big storms devastated half the state in 2011.
- Still recovering from Irene.
- Working to build back better.
- Encouraging communities in recovery and hazard mitigation and planning – Flood-Resilient Communities Program.
- Encouraging smart growth, walkable communities, sound regulation.

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